



DEPARTMENT OF TRANSPORTATION  
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D. C. 20591

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OFFICE OF  
THE CHAIRMAN

August 20, 1970

Honorable John H. Shaffer  
Administrator  
Federal Aviation Administration  
Washington, D. C. 20590

Dear Mr. *Shaffer*:

The National Transportation Safety Board's investigation of an accident on March 26, 1970, near Wichita, Kansas, involving a Beech Aircraft Model 23, has revealed, in our opinion, the need for re-evaluation of the fuel selector valve installation.

In the accident case, the pilot was unable to move the fuel selector valve during flight due to binding of the valve. As a consequence of the binding, fuel exhaustion occurred, resulting in extensive damage to the aircraft during a forced landing.

Examination of the fuel selector valve, P/N 169-920000-127, revealed that the tapered cone lacked adequate clearance in the tapered walls of the valve body. Chafing marks were noted around the lower half of the cone. The examination also revealed that normal downward pressure of the selector valve handle by the pilot could result in binding of the valve, thus preventing selection of the various fuel tank positions.

We are aware of the General Aviation Inspection Aid issued by the FAA in August and September of 1969, which referenced a Beech Service Letter providing instructions for the preventing of binding of the valve. In the accident case of March 26, 1970, the fuel selector valve had been modified in accordance with the Beech service instructions.

Our review of other accidents and incidents involving the fuel system installation of the Beech Model 23 aircraft has disclosed another condition which is not conducive to trouble-free operation. The fuel selector valve handle is located on the floor adjacent to the left seat track of the right passenger seat. The selector handle is surrounded by a guard which is floor mounted. The fuel tank indicator is also mounted in the guard ring. Our review of this system

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has indicated that the fuel selector valve handle, the guard, and the tank indicator are subject to excessive abuse by passengers' stepping on or kicking these components in flight, as well as by entering and leaving the aircraft. There is one accident of record in which a child kicked the fuel selector valve handle to another tank, unbeknown to the pilot, resulting in engine stoppage.

In view of the above, the Safety Board recommends the following:

1. Reevaluate the fuel selector valve installation on Beech Model 23 aircraft to assure airworthy standards. Consideration should be given to requiring a fuel selector valve which is proven to be free of operational difficulties.
2. The fuel selector valve installation should be either relocated or redesigned so as to preclude inadvertent operation of the valve by passengers.

Our Bureau of Aviation Safety personnel has discussed this problem with your Central Region engineering staff.

Sincerely yours,

  
John H. Reed  
Chairman